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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,787	01/18/2002	Hiroshi Echizen	03560.002983	9569

5514 7590 01/21/2004

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EXAMINER

VERSTEEG, STEVEN H

ART UNIT

PAPER NUMBER

1753

DATE MAILED: 01/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/050,787

Applicant(s)

ECHIZEN ET AL.

Examiner

Steven H VerSteeg

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7 is/are allowed.
- 6) ☒ Claim(s) 8 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 11-29863 (JP '863).

3. For claim 8, Applicant requires a sputtering apparatus comprising a film forming container, a substrate feeding mechanism, and an emission intensity monitor. The apparatus also comprises a film thickness measuring device that measures the film thickness and produces a result and a comparator that compares the output with a preset value and outputs a target value of the emission intensity monitor. The apparatus also comprises an emission intensity target-value setting unit configured to receive the output target value from the comparator and to adjust the emission intensity to the target value.

4. JP '863 discloses a process comprising forming a film while monitoring the emission intensity [0018] comprising detecting the thickness of the film, comparing that value to a preset value, and deciding a target value for the emission intensity [0018]. The apparatus comprises a substrate feeding mechanism (Figure 1), emissivity monitor [0018], film thickness measuring device [0018], and comparator [0018]. In performing the process, the thickness of the film formed is measured ([0018], line 4), the thickness is compared to the preset value ([0018], line 5), and the target value of the emission intensity that will provide the preset value of the

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thickness is decided and adjusted to the target value ([0018], lines 7-9). Thus, the apparatus would have an emission intensity target-value setting unit.

5. For claim 9, Applicant requires a gas flow rate control mechanism that controls the flow rate of at least one the gases introduced. JP '863 discloses a gas flow control mechanism [0018] that controls the flow rate of the gas introduced to control the emission intensity [0018].

Response to Amendment

6. The 102(b) rejection of claims 1-6 over JP 11-29863 (JP '863) presented in the office action mailed September 11, 2003 is withdrawn in light of the amendment to claim 1 to require adjusting the emission intensity to the target value to increase a transmittance of the film forms on the substrate to compensate for an increase in resistance of the film, but the rejection of claims 8 and 9 stands.

7. The 103(a) rejection of claim 7 over JP '863 presented in the office action mailed September 11, 2003 is withdrawn in light of the amendment to claim 1.

Allowable Subject Matter

8. Claims 1-7 are allowed.

9. The following is a statement of reasons for the indication of allowable subject matter: it is neither anticipated nor obvious over the prior art of record to have a sputtering method as claimed by Applicant in claim 1 for forming a film on a substrate while monitoring emission intensity of plasma comprising adjusting the emission intensity to the target value to increase a transmittance of the film formed on the substrate to compensate for an increase in resistance of the film.

10. JP '863 discloses adjusting the emission intensity to the target value [0018], but there is no disclosure that the emission intensity is to increase a transmittance of the film formed on the substrate. Therefore, JP '863 does not anticipate the claimed invention. There is no motivation to adjust the emission intensity to increase a transmittance of the film formed on the substrate unless hindsight reasoning is used.

Response to Arguments

11. Applicant's arguments filed December 11, 2003 have been fully considered but they are not persuasive.

12. Applicant has argued that JP '863 does not teach changing the emission intensity to remedy defects in a deposited film. Applicant has made no such claim. Applicant also has argued that JP '863 does not adjust the emission intensity to a target value to increase transmittance of the formed film to compensate for increase in film resistance. Applicant is correct, but only with respect to the method claims. With regard to the apparatus claims, such a limitation is not present. JP '863 does change the emission intensity, but it is not for the same function claimed by Applicant in claim 1. In claim 8, however, Applicant is claiming an apparatus. In an apparatus, it is the structure that determines the claim.

13. If you were going to attempt to define claim 8 in a manner similar to that in claim 1 (i.e. the function of the "adjusting" step in claim 1, I would recommend the following. Amend claim 8 to use "means plus function" language and invoke 35 USC §112, sixth paragraph. You could change the last three lines of the claim (I don't think changing anything else is necessary) to read: "emission intensity target-value setting means for receiving the output target value from the comparator and for adjusting the emission intensity to the target value to increase a transmittance

of the film formed on the substrate to compensate for an increase in resistance of the film". By doing so, you ensure that the function of the emission intensity target-value setting unit is defined over JP '863, rather than merely claiming intended use.

14. Currently, JP '863 reads upon the instant invention because JP '863 has an emission intensity target-value setting unit that receives the target value and adjusts the emission intensity to the target value.

General Information

For general status inquiries on applications not having received a first action on the merits, please contact the Technology Center 1700 receptionist at (571) 272-1700.

For inquiries involving Recovery of lost papers & cases, sending out missing papers, resetting shortened statutory periods, or for restarting the shortened statutory period for response, please contact Palestine Jenkins at (571) 272-1021.

For general inquiries such as fees, hours of operation, and employee location, please contact the Technology Center 1700 receptionist at (571) 272-1700.

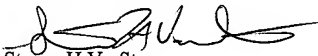
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven H VerSteege whose telephone number is (571) 272-1348. The examiner can normally be reached on Mon - Thurs (6:30 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1300.


Steven H VerSteeg
Primary Examiner
Art Unit 1753

shv
January 13, 2004